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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,689	02/10/2004	George Anthony Dunn	HSJ920030091US1	9184
35987	7590	08/22/2006	EXAMINER	
JOSEPH P. CURTIN 1469 N.W. MORGAN LANE PORTLAND, OR 97229			NEGRON, DANIEL L	
			ART UNIT	PAPER NUMBER
			2627	
DATE MAILED: 08/22/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/775,689

Applicant(s)

DUNN ET AL.

Examiner

Daniell L. Negrón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The indicated allowability of claims 11-13 is withdrawn in view of the newly discovered references to Deeman et al U.S. Patent Application Publication No. 2004/0001268. Rejections based on the newly cited reference(s) follow.

#### ***Request for Continued Examination***

2. Examiner acknowledges the request for continued examination (RCE) filed on June 21, 2006.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4, 5, 8, 9, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Deeman et al U.S. Patent Application Publication No. 2004/0001268.

Regarding claim 1, Deeman et al disclose a method for improving the format efficiency of a hard disk (10) of a hard disk drive, the hard disk drive having a rotary actuator (17) and a read/write head (not shown) having a read element and a write element, the method comprising determining a radial position of the read/write head with respect to the hard disk. Although not explicitly disclosed in the reference, it is considered inherent that Deeman et al determines a radial position of the head since it would be necessary to determine the position of a head with

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respect to the hard disk in a conventional hard disk drive in order to position enable the head for reading or writing.

Furthermore, Deeman et al disclose a method comprising writing data tracks on the hard disk at varying distance from a center of the hard disk (15) so that edges of the data tracks form a radius of curvature that is different than a radius of curvature formed by edges of subsequent servo samples (page 1, paragraph 13). It is considered that arc 14 created by the actuator arm of Figure 2 represents the arc of curvature of data tracks written to the hard disk.

Regarding claim 4, Deeman et al disclose a method further comprising determining lengths of the data tracks based on an angular position of the rotary actuator (page 2, paragraphs 22 and 23).

Regarding claims 5, 8, 9, and 14, apparatus claims 5, 8, 9, and 14 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1 and 4. Therefore apparatus claims 1 and 4 correspond to method claims 5, 8, 9, and 14, and are rejected for the same reasons of anticipation as used above.

Regarding claim 11, Deeman et al disclose a method further wherein writing the data tracks on the hard disk further comprises writing data tracks on the head disk so that the edges of the data tracks form a radius of curvature that is smaller than a radius of curvature formed by edges of the subsequent servo samples (page 2, paragraph 22).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 6, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deeman et al U.S. Patent Application Publication No. 2004/0001268 in view of Hrinya et al U.S. Patent No. 6,204,989.

Regarding claims 2 and 3, Deeman et al disclose a method for improving the format efficiency of a hard disk of a hard disk drive comprising all the limitations of claim 1 as discussed above but fail to explicitly show determining lengths of the data tracks from a look-up table. However, Hrinya et al disclose determining the length of data tracks from a look-up table (i.e., data table, column 8, lines 41-59), and further discloses determining the length of data tracks based on a determination of the arc of the rotary actuator, the determined position of the read/write head with respect to the hard disk, and the physical offset between the read element and write element (column 4, lines 6-39 and column 6, lines 41-59).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method disclosed by Deeman et al with the disclosure of Hrinya et al in order to write data at using desired distances and other given variables hence increasing the data density of the hard disk drive.

Regarding claims 6 and 7, apparatus claims 6 and 7 are drawn to the apparatus corresponding to the method of using same as claimed in claims 2 and 3. Therefore apparatus claims 6 and 7 correspond to method claims 2 and 3, and are rejected for the same reasons of obviousness as used above.

Regarding claim 10, claim 10 has limitations similar to those treated in the above rejection of claim 2, and are met by the references as discussed above.

### ***Response to Arguments***

7. Applicant's arguments, see pages 6 and 7, filed June 21, 2006, with respect to claims 11-13 have been fully considered and are persuasive. The rejection of claims 11-13 has been withdrawn.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN   
August 10, 2006

  
WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER